

Ericsson Communications. Or those made by General Electric, its predecessor once-removed.

In any case, the entire New Orleans 800MHz trunked radio system, reportedly supplied and installed by M/A Comm or one of its predecessors in 1992, failed due to loss of its trunking controller by virtue of an emergency power source failure.²

There is certainly no dispute that once M/A Comm technicians arrived and repaired the damage to the emergency power source, at least one of the trunked radio relay points was again operational. But, this was reported to be more than three days following Hurricane Katrina. Hardly something you could call continuous operation in the wake of Katrina. In the interim, only simplex, low power 800MHz unit-to-unit communications were available to New Orleans law enforcement and fire departments with its attendant limited and impaired coverage.

2. M/A Comm suggests the interoperability problem can be solved most effectively through deployment of and reliance upon dedicated Internet Protocol (IP) networks.³ While it might be an efficient means of interconnection of their systems, reliance upon any pre-existing wireline or

² **Failure of Initiative** Final Report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina. U.S. House of Representatives, 109th Congress, Second Session, February 16, 2006. P.175.

fixed infrastructure component is not good judgement. As noted in the US House of Representatives report on Katrina, failure of an already-existing T1 pathway disconnected the existing means of radio system interoperability between New Orleans and Louisiana State systems.⁴ Whether fiber or wire cables are themselves severed or simply their terminal and/or repeater units damaged or without firm power, it makes little difference. Similarly, microwave antenna installations are frequently damaged and/or mis-aligned by severe storm or earthquake events. Even employment of self-healing, SONET-ring technology is subject to failure if more than one segment is affected, as likely in a widespread damage scenario like Hurricane Katrina presented. Also, IP interconnectivity is of little value to incoming units employing a plethora of different radio systems unless they bring along the necessary mobile relay units and a means to establish IP interconnectivity at some pre-designated point. Of course, all this assumes that the dedicated IP infrastructure survived. (As noted earlier, it would likely not have in the case of Katrina.) And, due to the limited range of such portable, mobile radio relay equipment, the point mandated for IP interconnectivity may not, in fact, be central to the needed radio coverage area, thus further limiting effectiveness of radio system coverage. Especially at 700MHz and above.

³ M/A Comm Comments, P.1-P.3.

⁴ **Failure of Initiative**, P.175.

3. Efforts should instead be focused on making existing trunked radio systems function effectively as stand-alone conventional repeater systems on failure of trunking controllers or the trunking controller channel. Means to provide a hardened, steadfast approach to re-establish linkage with wayward trunked repeater systems and eliminating single-point-failure vulnerabilities should be the highest priority. Or, if this cannot be achieved, then, mandated conversion to wide-area, conventional-only operation. Nationally, hundreds of trunked systems have been sold to agencies under the guise of improved reliability, with just the opposite experience. The effect of loss of either the trunking controller, as demonstrated in New Orleans, or loss of the trunked control channel renders each, at best, to be a number of short-range, local-area mobile relays with no central dispatch or control point access if they “roll-over” to conventional operation successfully.

Trunked systems in and of themselves exhibit a false sense of robustness by virtue of the requirement for more mobile relays per square mile than those for conventional systems. This is due primarily to the additional losses encountered at 700MHz and higher frequencies and limitations on effective radiated power to avoid interference from adjacent trunked sites. Even if trunked systems successfully revert to multi-channel conventional operation on failure of the trunked control channel or controller, there may be no automatic means to determine which channels to use for the oftentimes

multiplicity of users. Everything from municipal dogcatchers to fire, paramedics and police. Even if pre-determined conventional channels are selected and pre-determined for mobiles, the useful coverage would be seriously limited without interlinking and patching via trunking control channels or other infrastructure to allow simulcasting on multiple sites. Users in one zone may find themselves able to communicate only with other mobiles in their immediate area in such scenarios and not with dispatch or control points.

As but one example, trunked systems have had a notably poor reliability record in the Dallas, Texas area.⁵ So much so, in fact, that local governments that still use trunked systems where life safety is of concern use conventional VHF and UHF mobile relay systems in vehicles as a fall back in the event of trunked system failure. Mr. James L. Randall, of Richardson, TX, informed me that the Dallas Police Department completely abandoned its 800MHz trunked system and returned to a conventional UHF mobile relay system as a result of reliability and coverage concerns with their trunked system. And, in yet another example, the Florida Highway Patrol was reportedly without any radio communication whatsoever in the southern half of the entire state of Florida for an extended period due to a trunking system problem.⁶

⁵ Filed Comments of Mr. James L. Randall, Richardson, TX, FCC Docket 06-119, P.2.

⁶ Filed Comments of Mr. J. Kevin Hunt, Esq., Oregon City, OR, FCC Docket 06-119, P. 55.

4. In view of the above, I would encourage the Commission to seriously consider a change to Part 90 regulations requiring only conventional mobile relay configurations for public and life safety radio applications. In the wake of Hurricane Katrina, the New Orleans public safety radio system failure gave us all a most dramatic and tragic example of why trunked radio systems should not be relied upon for critical life and public safety applications.

Respectfully Submitted,

/s/

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